

# NUCLEAR DIVISION NEWS

UNION  
CARBIDE

A Newspaper for Employees of the Nuclear Division, Union Carbide Corporation

Vol. 1 — No. 8

OAK RIDGE, TENNESSEE

Thursday, May 21, 1970

## Environmental Promise

By GLENN T. SEABORG

The use of nuclear power to generate electricity is being accepted and growing throughout the world. But nuclear power reactors also have many other possible uses. They could for example desalt seawater on a much larger scale than ever before. They could also provide process heat for industry and space heat for large buildings. And there are some even more dramatic possible uses.



Many scientists and engineers are considering the prospects of building someday multi-purpose nuclear complexes that could produce great amounts of food and water and industrial products in addition to electricity. These centers would be located on barren coastal regions, and the heat from the power reactors would desalt great amounts of seawater as well as generate electricity. The water and power could support industrial activities, such as the production of fertilizer, and the water and fertilizer, scientifically applied, could turn the surrounding desert into productive farmland. One such complex could support the farming of enough high-yield grain to feed millions of persons. In addition it could provide chemicals and industrial products, create new jobs, and in general, bring people and economic opportunity into a previously undeveloped area.

With only a little imagination we can look further into the future and envision great nuclear powered centers that might handle the processing and manufacturing for a large part of a nation. We have termed such a center a "Nuplex" — short for nuclear-powered agro-industrial complex. The Nuplex would consist of a variety of highly automated industrial plants clustered around large power reactors, all interconnected by an underground maze of arteries, pipelines, and conveyor belts. Scrap from the outside world would stream into the Nuplex to be broken down and separated into essentially new raw materials. These would be routed to other plants to be manufactured into new products for society. If the Nuplex were located on a sea-coast, it might also extract from the sea and process such elements as magnesium, silver, gold and uranium.

Relatively few men would be needed to keep a Nuplex operating, and it could be located far from cities it supports. Nuplexes, in fact, could pull most manufacturing and industrial activities out of our cities, which could then become pleasant centers for commerce and culture.

Some of these dramatic possibilities may be quite a way into the future, but others — like the desalting plants — may come sooner. But whenever they come, the atom will be making major contributions toward alleviating the worldwide problems of pollution, waste, hunger, and thirst.



**BLOOD DONOR**—Mrs. R. T. Santoro, one of the Gray Lady volunteers at the April Bloodmobile visit, helps Oak Ridger Carl Kincaid to get ready for his donation of a pint of blood. Mrs. Santoro is the daughter of W. H. Hildebrand at ORGDP.

## Exploration of Environment 'Zeros in' on Arctic Life

Rootless plants, caribou, and Eskimos are the subjects of an Atomic Energy Commission study which is part of a worldwide investigation to find out how Arctic life acts and reacts in its environment.

Food chains in the Arctic and sub-Arctic are simple and quite easy to trace, according to W. C. Hanson, an ecologist for Battelle Memorial Institute at the AEC's Pacific Northwest Laboratory, Hanford, Wash.

The minute amounts of naturally occurring radioactive elements and man-made radioactive elements, which can be measured by only the most sensitive devices, are invaluable in explaining and showing the relationship of plants and animals of the area, Hanson explains.

The study has shown that the amount of certain radio-elements in the bodies of Eskimos varies according to the season and the amount of caribou meat they eat. It also varies in the caribou according to the season and their diet. During the winter, lichens—plants which have no roots—make up a major portion of the diet of caribou; during the summer they eat grass.

Hanson has studied Eskimos and Indians in most of Arctic Alaska since 1962. When the study of Alaskan natives was considered, extremely sensitive devices were developed for measuring minute

amounts of radioactivity. One device required the use of five-and-a-half tons of electronic gear and lead bricks—the latter to shield radiation detectors from naturally occurring radioactivity from the sun, stars, and from minerals on and in the earth.

"You can bet that moving the lead bricks, especially by dog sled, presented a problem," Hanson stated. "So a new 45-pound device which requires no shielding was developed, and is now used in studies throughout the Arctic areas."

## Survey Shows Less Drilling

According to a survey conducted by the Atomic Energy Commission's office in Grand Junction, Colo., the domestic uranium industry is planning about 24,000,000 feet of surface exploration and development drilling during calendar year 1970. This compares with 30,000,000 feet actually drilled in 1969.

The estimate of annual drilling for the next four years is as follows:

Year	Estimated Feet
1970	23,730,000
1971	19,230,000
1972	18,260,000
1973	16,710,000

This survey information represents the combined estimates of drilling footage and associated costs for 52 companies. These companies project a total of about 78,000,000 feet of drilling during the four years 1970 through 1973 at a cost of \$120 million including technical and administrative costs, but excluding costs for acquisition of lands and exploration rights.

## Memorial Day

Friday, May 29, is a holiday for Nuclear Division employees. Memorial Day this year falls on Saturday, thus the Friday holiday.

No employee is required to be at work unless his presence is required by security or continuous operations.

## It's Now or Never

## Red Cross Blood Program Still Needs 564 Donors for Quota

The period between today and June 10 is "now or never" for the newly organized Oak Ridge-Anderson County Red Cross Blood Program.

To be approved for membership in the Regional Blood Center in Nashville, Tenn., local volunteers agreed to raise a total of 810 pints of blood before the end of the fiscal year. The 810 pints would cover every

resident of Oak Ridge and Anderson County for a period of April through June 30, and then a new quota would be determined for fiscal year 1971.

### Fiscal Year Quota

Donors gave 246 pints of blood at the first Bloodmobile visit April 24, but 564 more are needed to reach the fiscal year goal of 810 pints. The June 9-10 visit in Oak Ridge is the last opportunity during this fiscal year for Oak Ridge and Anderson County to fill the quota.

Julian ("Mark") Marcum, Nuclear Division Auditing Division and long-time Red Cross worker, reports that arrangements for giving blood may be made by calling the Red Cross number 483-5641.

"We have to emphasize that the time is now or never," Marcum said. He pointed out that extensive planning and efforts were necessary to get the program started and that the community "would suffer a great loss if we failed to complete follow-through and make our goal."

### Program on Probation

Marcum explained that the program was already under probation because the first visit had missed its goal. A second failure might well lead to cancellation, he said.

The new program provides blood at greatly reduced costs to any resident of Oak Ridge or Anderson County who needs it at any time and any place. Red Cross volunteers handle arrangements. "Although you need not

be a donor to be eligible," Marcum said, "the continuation of the program depends upon raising the agreed-upon quota of blood."

The program prevents high costs for those needing blood. The only charge is for the processing involved.

Any person from age 18-65 who fulfills the physical requirements can give blood. The whole process takes less than an hour, including filling out of appropriate forms, a brief physical examination, the donation, and a light snack and rest after giving blood.

## Oak Ridge Developments Covered in New AEC Film

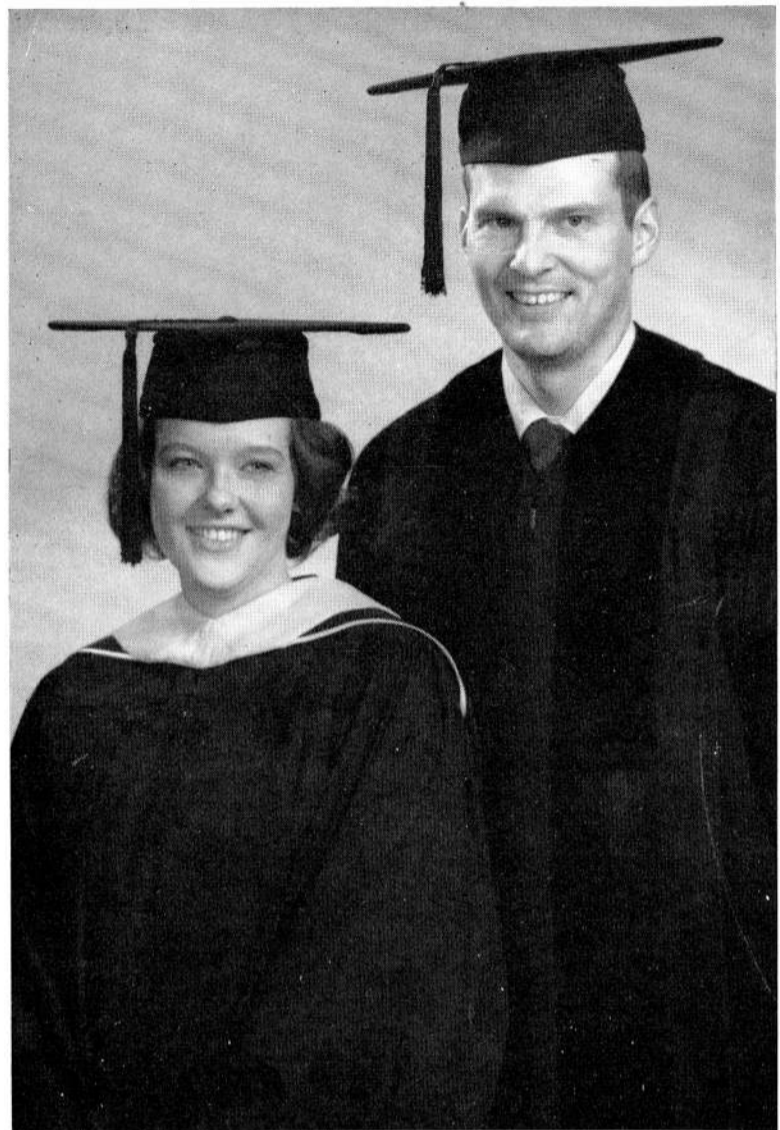
The Atomic Energy Commission's Film Library has added a popular-level movie that outlines the major contributions to nuclear energy research in the United States during 1969.

The film, "The Atomic Search," was produced at the AEC's Argonne National Laboratory, Chicago.

Two developments from the Oak Ridge area are covered: The Oak Ridge Associated Universities' use of a low-exposure, total-body irradiation facility for conducting research on more effective methods of treating blood disorders; and development at the Oak Ridge National Laboratory of highly-sensitive diagnostic tools used to identify and separate the constituents in body fluids.



**TRAINING PROGRAM VISITORS**—Officials of the Functional Industrial Training program at the Paducah Gaseous Diffusion Plant recently visited Oak Ridge. Welcomed by Paul R. Vanstrum, Nuclear Division Vice President (center) are Paul Brower, FIT project director (left), and Lawrence Milliken, guidance counselor for the training program.



**HUSBAND AND WIFE GRADUATE**—Margaret and Roy Morrow recently graduated together from The University of Tennessee; he was awarded a Ph.D. degree while she graduated with an M.S. Margaret's graduate school credit was gained with assistance from the Educational Assistance Program.

## Educational Assistance Program . . . A Real Good Thing!

Now 16 years old, Union Carbide's Educational Assistance Program shows signs of rapid growth in its mid-teens.

Initiated back in February, 1956, the program provides 50 percent refund on the cost of tuition, laboratory fees and the necessary supplies which go with continuing education. The job-related courses include studies in secretarial skills, electronics, as well as advanced college courses toward higher degrees.

The Oak Ridge Gaseous Diffusion Plant reports an expenditure in excess of \$15,000 for 1969, for 348 courses taken by personnel there. Y-12 shows 626 cases for the same period for an expenditure over \$24,000!

ORGDP boasts 11 employees that have received the other 50 percent payment for advanced degrees earned (10 M.S. degrees and one Ph.D.) since the final 50 percent refund plan was included in the EAP. The program expanded in 1967 to give the employee-student the other half of his investment when he has completed a year of employment after the awarding of his advanced degree. This refund applies only to advanced degree studies. The Y-12 Plant reports 13 employees receiving advanced degrees under the program (12 M.S.'s and one Ph.D.)

### Unique Graduation

The March graduation exercise at The University of Tennessee produced a unique case, involving at least partially, the Educational Assistance Program. A husband and wife team graduated together; both are Y-12 employees. Roy W. Morrow, Production Analysis, gained his doctorate degree; while Margaret, Chemistry Development, graduated with a master's degree in chemistry. Margaret earned most of her graduate credit under benefits of the EAP.

Morrow came to Y-12 in February of this year, and had done all his course work and examinations toward this Ph.D. Margaret came here June 19, 1967. She holds a BS degree from Newber-

ry (S.C.) College, and did some graduate work at UT before coming here. The couple was married in December of 1966.

Chemist Morrow graduated from Murray State University in Kentucky, and in 1967 was awarded an M.S. from UT.

During 1969, two Y-12 employees completed a year of employment after receiving advanced degrees—R. B. Zimmerman and B. H. Hicks. At ORGDP, the total was six—G. E. Roettger, R. E. Textor, K. E. Cross, J. A. Hoffmeister, J. W. McKeever and M. J. Stephenson.

### Prior Approval

Educational Assistance requires prior approval before starting each course. Training Departments in both Y-12 and ORGDP suggest you come by and fill out the necessary forms before entering a course of training.

Information on the EAP in ORGDP may be obtained from Lorene Friar, extension 3-3725, Building K-1001; and in Y-12 from,

Jack Nicholson, extension 3-7382, in Building 9704-2.

Many courses in the Adult Education Program at the Oak Ridge High School, and most of the courses offered by The University of Tennessee Extension and the Graduate School are on the "qualified course of study" list.

Both Training Departments are available for questions you might have on the Educational Assistance Program.

EAP—a real good thing!

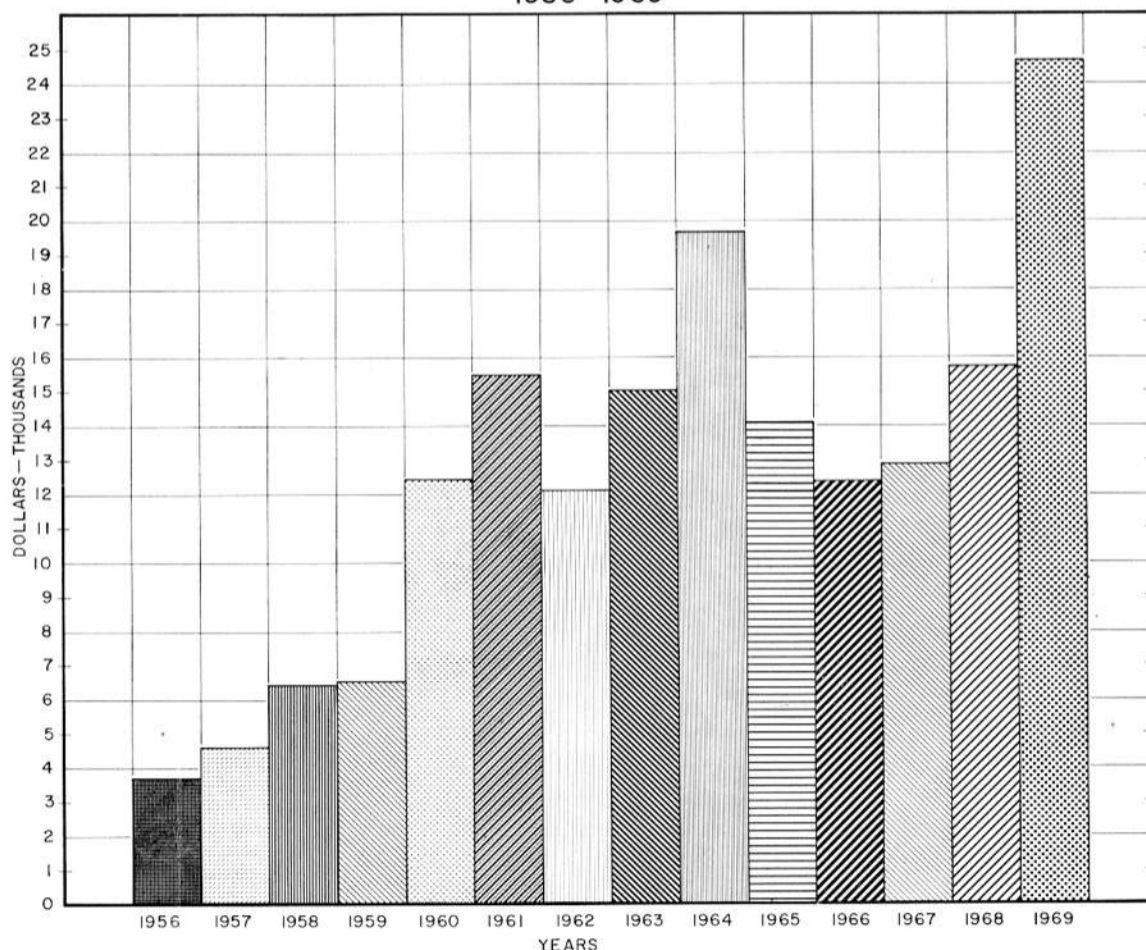
### WORLD FOOD SHORTAGE

Dr. Borgstrom, Professor of Food Science and Geography at Michigan State University, warns that if all food in the world were equally distributed and each human received identical quantities, we would all be malnourished. If the entire world's food supply were parcelled out at the U.S. dietary level, it would feed only one third of the human race. The world as a global household knows of no surpluses, merely enormous deficits.



**FINAL REFUND**—M. J. Stephenson, right, receives his final 50 percent reimbursement from J. R. Merriman for his graduate work. Stephenson received an M.S. degree last year from The University of Tennessee. Final reimbursement comes after one year of employment past the receipt of the degree.

**PROGRESS CHART  
EDUCATIONAL ASSISTANCE  
1956-1969**



**Growth of Education Assistance in Y-12 since 1956**

## Now Is Time for All Good Men to Prove Their Birth Dates for Official Records

Can you establish the correct date of your birth with an acceptable document?

How about your spouse's birth date? In certain instances such as the Company's Pre-Retirement Surviving Spouse benefit under the Pension Plan, proof of your spouse's birth date is necessary. Also if you select the Surviving Spouse Option to be effective at retirement, proof of your spouse's birth date will be required.

Not only is a birth certificate or other acceptable proof of birthdate necessary for Union Carbide's Retirement Program, the Social Security Administration also requires documentation of birth dates, such as a delayed birth certificate. A delayed birth certificate usually is not acceptable to Social Security, but other proofs of birth dates such as an original birth certificate, the family Bible, baptismal records, and

census records may be used. The time to start thinking about this is now. If you are 45 years old, start giving a few thoughts about your retirement years. Some authorities in the field suggest age 40 as the time to start preparing for retirement. Just consider how fast the past 10, 15, or 20 years have gone by. The next 20 will pass just as quickly, if not more so. Just ask the man who is retiring.

Check the proof of your birth for both yourself and your spouse to be sure that you have a document that will be acceptable when you need it. The Retirement Planning Office in the Industrial Relations Division will be glad to advise you in this regard.

While you are at it, how about some other important papers. Is your will up-to-date and current with changes in your family status? Are your important papers such as marriage certificate, insurance policies, deeds, stock certificates, will, etc., in a safe place? Do the proper people know where they are located?

While it is not the most pleasant subject, it is usually wise to discuss with one's spouse the potential income you might receive and the necessary steps she should take for a reasonably smooth transition when necessary. Income for the family after an employee's death (depending on ages, company service, etc.) may be available from the Company's Pension Plan and Group Insurance Plan, individually owned insurance, and survivor benefits from Social Security, and Veteran's Administration. You also may have established other sources of income.

In any event, be prepared!

## NEWS

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NUCLEAR DIVISION

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**NEW BUILDING**—An attractive brick building in the northwest corner of Y-12 is the new home of the Product Engineering and Scheduling Division and Data Systems Department of Technical. Much of the plant's production scheduling and planning

operations is coordinated here. The keypunch area is seen at left. The unusual pattern on the wall does more than enhance the looks of the room. Those squares absorb much of the clattering sounds of the keypunch machines. The building is

seen in the center photo, and R. A. Tannert is seen at right directing part of the data systems operations in the plant. Building 9103 is one of the new facilities constructed to update Y-12's capabilities.

## Retiree Zimmerman Active In Sweetwater Water Plant

Still active and working is the word from J. C. Zimmerman. In a front-page article in a recent Sweetwater Valley News, the former Y-12er is seen as a relief operator at the city of Sweetwater's water supply.

The newly installed fluoridation system at the city water works occupies much of Zimmerman's time. He retired as a pipefitter from Y-12 in August, 1965.

The former Y-12er works every Saturday at the plant.

He has a son R. B. Zimmerman working in Y-12's Engineering Division.

## HOSS SHOE LEAGUE

The Recreation Department has issued a call for summer sportsmen interested in pitching horseshoes.

The horseshoe league will consist of two-man teams and play takes place at the courts near Jackson Square. Just give Recreation a ring at 3-7109 . . . and enter your team.

## Four Y-12 Veterans To Retire May 31

Four old-time Y-12ers retire this month, marking extended periods of service with Union Carbide Corporation.

They are Robert H. Hart, Process Maintenance; Eugene L. Hill, Buildings, Grounds and Maintenance Shops; Vern C. Huskey, Utilities Administration; and Nellie M. Parks, Superintendents Division.

Best wishes.

## COLD FACTS

Spoilage of frozen or meltable foods during multi-stop deliveries has always been a problem for food suppliers. Now, chemically-made thermal blankets can prevent it. They are manufactured by sandwiching a flexible sheet of one-quarter inch urethane foam between two layers of vinyl-coated nylon. The outer layers are rugged enough to withstand rough treatment, yet remain flexible in temperatures as low as minus 40 degrees F.



Additional Y-12ers mark May as an important month, marking special days with Union Carbide Corporation. Congratulations.

## 25 YEARS

**Deborah W. Kiviniemi**, Production Analysis, May 8.

**Kenneth S. Fugate**, Beta Two Chemistry, May 10.

**J. R. Robinette**, Stores Department, May 11.

**James A. O'Barr**, Beta Two Forming, May 12.

**Francis O. Gaddis**, Research Services, May 13.

**Clebert C. Roberts**, Guard Department, May 23.

**George S. Ferrell**, Special Production, Scheduling and Coordinating, May 26.

**Homer C. Baker**, Tool Department, May 27.

## 20 YEARS

**William H. Moses**, Research Services, May 8.

**Walker A. Rutherford**, General Metal Fabrication Shop, May 9.

**Mayford B. McCarter**, 9766 Machine Shop, May 16.

**Edna L. Kennedy**, Nondestructive Testing, May 16.

**Edgar Reagan**, Dispatching Department, May 21.

## 15 YEARS

**Ralph R. Moore**, General Metal Fabrication Shop, May 9.

**William L. Scruggs**, General Weld Shop, May 9.

**Malcolm N. Elam**, M-Wing Shop, May 12.

**Carl C. Thornton**, General Machine Shop, May 13.

**George W. Simonds**, Beta Four Forming, May 16.

**George H. Steinecipher**, Beta Four Heavy Machine Shop, May 17.

**Roger K. Carper**, 9766 Machine Shop, May 17.

## 10 YEARS

**Nancy T. White**, Maintenance Division, May 9.

**William R. Jackson**, Guard Department, May 23.

**Oaklie K. McConnell**, Dimensional Inspection, May 23.

**Karl Z. Morgan**, Mechanical Design Engineering, May 25.

**Raymond E. Price**, Metallurgical Development, May 25.



**PRODUCTION PLANNING**—Much of the operations in Building 9102 concerns the production scheduling and planning operations, coordinated in this office. The Product Engineering and Scheduling Division staff are seen conferring. From left are D. Jeff Bostock, William H. Thompson, Jr., Harwell F. Smith, Jr., superintendent; W. Ron Ragland, and Morris Fortenberry.

## Product Engineering and Scheduling Data Systems Now in New Building

A modern building, 9103, at the northwest corner of the Y-12 Plant is the new home of the Product Engineering and Scheduling Division and the Data Sys-

tems Department of the Technical Division.

The PE & S Division, headed by Harwell F. Smith, Jr., occupies about half the first floor and all of the second for a total of about 50,000 square feet of floor space, with approximately 100 offices.

The Data Systems Department, with R. A. Tannert supervisor, has about 25 offices in addition to the computer room and support data systems facilities.

The building is one of the several new facilities constructed or expanded within recent months to update the technical capabilities of Y-12.

## Schede To Talk On Use of Laser Interferometers

The use of laser interferometers for improving machine tool accuracy at the Oak Ridge Y-12 Plant will be discussed by a Union Carbide electrical engineer at the Machine Tool Forum in Pittsburgh, Pa., May 26-27.

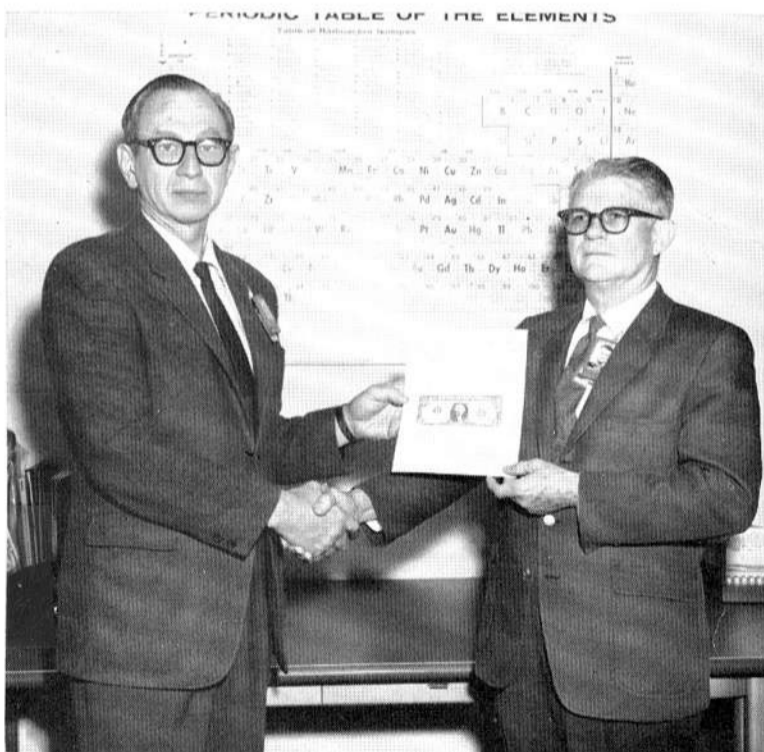


Schede

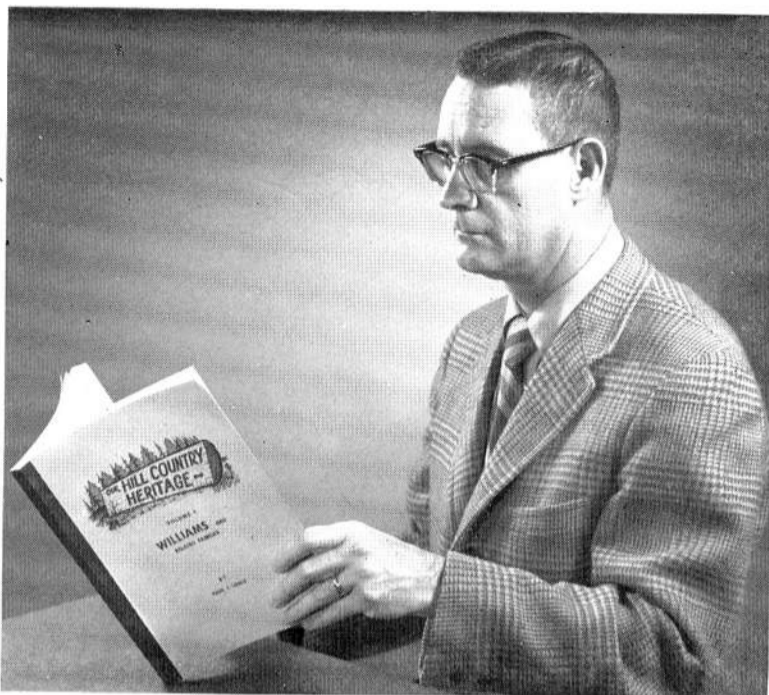
Schede will tell how laser beams are used in Y-12 Plant machine tool development programs to achieve machining accuracies of a few millionths of an inch.

## SYNTHETIC HUMAN BLOOD?

The possibility of making synthetic human blood from fluorocarbon emulsions and high molecular weight polyols is being studied by the Harvard School of Public Health. Financed by a three-year grant from the John A. Hartford Foundation, the study will look into replacement of red cells and plasma by synthetic red cells. Results so far indicate that the substance is non-toxic and capable of fulfilling blood's biological functions.



**A 'METHOD FOR PRODUCING** Powders of Uranium Metal' has resulted in a patent application for H. C. Francke, right, Materials Engineering Development. The patent application, filed in the name of the U. S. Government, is acknowledged above by George B. Marrow, left.



**SHAKING THE FAMILY TREE**—Paul J. Long, Materials Testing Support, is seen with a volume of lineage of the WILLIAMS family he recently published. Long married into the Williams family, and the book is a result of many years of research and writing.

## Paul Long Writes Interesting Geneology Of Wife's Family – the Williamses

There are 94 Y-12ers bearing the name Williams, which indicates how popular the name is in these parts. Paul J. Long, Materials Testing Support, has recently compiled a long, elaborate study of the Williams family. (Paul's main reason for an interest in this particular family stems from the fact his wife was a Williams.)

Entitled "Our Hill Country Heritage, Volume I, Williams and Related Families," the book was privately published after more than 10 years' research by the Y-12 author. The result is 184 pages of genealogical materials on the Williams and related families of Monroe County, Tenn. Material is also included on the following families: Best, Bivens, Blair, Cardin, Debety, Giles, Kile, Kirkland, Long, Millsaps, Roberts, Sneed and Winters. Data are also given on the Hyder family of upper East Tennessee.

The study is of the descendants of Williams and Triphena Millsaps Williams. The family patriarch was born in North Carolina around 1804. He married Triphena Millsaps in Blount County May 15, 1824 and they lived in the Tallassee-Citico areas of Monroe County. Miss Millsaps was the granddaughter of Revolutionary

War soldier Michael Hyder, of the Watauga Settlement.

Hobbies are dead serious things with Long. He was the subject of an article several years ago in the Bulletin, when his paintings made up a one-man show at London.

He lives at 106 Evans Lane, Oak Ridge, with his wife and three children.

A graduate of Tennessee Technological University, Long has also done graduate work at The University of Tennessee. He is a graduate of the Famous Artists' School.

The author has already begun research on his own family tree, which will be covered in Volume II.

So, if your name is Williams, you might see Paul about his book. It is highly possible some of your early Tennessee relatives may be covered in the illustrated book. (There are 19 pages of aging photographs in the collection.)

Long acknowledged the help and patience of his wife, and admits that it was her initial interest that spurred him on to write the volume. "Geneology is a fascinating study," he said, "and it is contagious, too!"

## Hi Jackers Take Top Honors at Starlite

The Carbide Starlite League wound up its bowling last week with the Hi Jackers hitting their big stride and taking the season's crown. They defeated the Dynapaths, while the Woodpeckers fell to the Splitters.

W. B. Rutherford, Splitters, rolled a 216 scratch, 255 handicap single. Walt Sherrod, Hi Jackers, hit a 542 scratch series. Rutherford's 655 handicap series was high.

The Hi Jackers rolled highest in scratch-counting, singles of 832 and series of 2470. The Splitters took handicap honors, singles of 980, series of 2873.

The League met Tuesday night to organize for Fall play. The eight-team league rolls Tuesday nights in Knoxville.

Final standings follow:

Team	W	L
Hi Jackers	63½	26½
Woodpeckers	61	29
Has Beens	56	34
Splitters	46½	43½
Thunderbirds	46	44
Dynapaths	38	52
Wild Cats	30	60
Jaguars	19	71

## Brewer, Mook Take Table Tennis Tops

Table Tennis men wrote 'finis' to their two leagues recently winding up action for the winter and spring.

Gordon "Red" Brewer capped first place in the Y League with 21 wins, no losses. His closest contender was Ed Gambill, 17 wins, four losses.

Y League Standings:

Player	W	L
Gordon Brewer, Y-12	21	0
Ed Gambill, Y-12	17	4
Bill Bardill, ORNL	16	5
Gene Zeigler, ORNL	11	10
Art Weinberger, ORNL	10	11
Bob Smith, Y-12	0	15
Ken Toth, ORNL	0	15
Ron Uppuluri, ORNL	0	15

Herb Mook eased through in the X League, taking it by a mere point over Roy Huddleston. Huddleston, himself, was only one point ahead of Loyd Wyatt.

X League Standings:

Player	W	L
Herb Mook, ORNL	17	4
Roy Huddleston, Y-12	16	5
Loyd Wyatt, Y-12	15	6
Bill Motley, Y-12	12	9
Bill Foutz, ORNL	11	10
Jerry Godstein, ORNL	10	11
Subbu Raman, ORNL	3	18
Jerry Keyes, Y-12	0	21

## INTERSECTION CROSSINGS

More than 40 percent of pedestrian deaths in 1969 occurred while the pedestrian crossed between intersections. The Travelers Insurance Companies' annual survey shows more than 4,040 died and 67,800 were injured between intersections.



**PROMOTION AND COMMENDATION**—Leander E. Woods, Jr., on military leave from Assembly's Engineering Department, was recently promoted to first lieutenant in the U. S. Army and received the Army Commendation Medal. He is seen above with his wife, the former Brenda Dyer of Jefferson City. Woods was assigned to a year's duty in Korea in mid-April.

## L. E. Woods, Assembly, Earns Promotion, Commendation Before Leaving for Korea

Assembly's Engineering Department recently received the news that Leander E. Woods, Jr., on military leave, had received a promotion and a citation.

Woods is now a First Lieutenant, and left for a year's tour of duty in Korea.

Lt. Woods received his promotion March 22, the minimum time for promotion since he received his commission at The University of Tennessee in August, 1969.

Lt. Woods received his Army Commendation Medal upon completion of his tour of duty at Tooele Army Depot in Utah. The citation read:

"The Commanding General, United States Army Material Command, authorized by the Secretary of the Army, was awarded the Army Commendation Medal to 2nd Lt. Leander E. Woods, Jr., United States Army, for exceptionally meritorious conduct in the performance of outstanding services. Lt. Woods, Ordnance Corps, distinguished himself by exceptionally outstanding performance of duty as a design engineer at Tooele Army Depot, from August, 1969, to March, 1970. "Utilizing keen engineering and

professional ability, coupled with loyalty and devotion to duty, Lt. Woods completed high priority projects before established deadlines. His diligence, cooperation and confidence made him an inspiration to those individuals with whom he worked. He demonstrated at all times a high degree of competence, initiative and personal interest in accomplishing his duties. Lt. Woods' outstanding performance of duty throughout this period reflects great credit upon himself, the U.S. Army Material Command and the military service."

Lt. Woods and his wife, the former Brenda Dyer, recently visited his parents in Rockwood and her relatives in Jefferson City. The couple has two small sons.

The Woods family also includes a brother, Airman 2/c Danny Woods serving a tour of duty with the Air Force in Germany; and Larry recently discharged from the Air Force after duty in Vietnam and Japan.



**Ride wanted from 4309 Lamour Drive, Bearden area, Knoxville, to East Portal, straight day.** Lloyd Krohn, plant phone 3-5226, home phone Knoxville 584-7652.

**Ride wanted from Lake City to West Portal, or as alternative will take riders, straight day.** Karen Watson, plant phone 3-7430, home phone Lake City 5533.

**Rider wanted from Bearden section, Knoxville, to Central or North Portal, straight day.** Maxine Garrison, plant phone 3-7253, home phone Knoxville 588-0474.

**Riders wanted from Kingston Hills, Deane Hills, West Hills section, Knoxville (after June 15) to any portal, straight day.** Jim George, plant phone 3-7277, home phone Knoxville 588-6474.

## LOST AND FOUND

Lost and Found items are reported or turned in to the Guard Department, Building 9710-2.

Lost items should be called in to extension 3-5495.



**Biology Maintenance personnel, Research Services, are justifiably proud of their safety performance over the past few years. The group has operated more than a year and a half without a serious-type injury; and the occurrence of minor or first aid injuries has been kept to a minimum. Much of their success can be attributed to the favorable safety**

attitude of both the employees and supervision and the maintenance of tremendous amount of safety interest with the group. The group has proved that if hazards are recognized and appropriate corrective action taken accidents and resulting injuries can be prevented. Efforts of this nature keep accidents from happening!

# THE CARBIDE COURIER

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**COMPLETE AMA LEADERSHIP STUDIES COURSE** — From left, seated, are Dan Johnson, course discussion leader, S. F. Finch, Gary Humphrey, Frank Jamison, Bob White and C. L. Eller; standing, Dr. L. F. Lockett, lecturer for the final session, R. J. Thomas, B. Nieman, Jim Young, C. C. Hendrick, N. A. Pace, L. D. Ladd, and Wayne Pope. Another member, C. E. Brown, is not pictured with the group.

## Brewer, Long-Time Employee, Is Dead

Buford Allen Brewer, 57, a maintenance mechanic in Chemical and Technical Maintenance, Fabrication and Maintenance Division, died in the Oak Ridge Hospital on April 15, following a long illness. He had been employed here since June, 1946.



**Brewer**

Brewer was a native of Wayne County, Tennessee. He taught the deaf in Nashville for four years before coming to Roane County. Survivors include his wife, Mrs. Marie Horton Brewer at the home on Decatur Highway, Kingston; three daughters, Mrs. Frank Taylor, Karns, Mrs. Joe Woody, Kingston, Mrs. Linda Neal, LaFollette; and two sons, Charles, LaFollette, and David, Kingston.

## Reynolds Plays Role In Rescue at Lake

H. E. (Doc) Reynolds, a member of the A Shift Emergency Squad, recently was fishing with a friend near Shanghai Dock on Norris Lake. They observed two men in another boat traveling fast in a circle. Both men in the other boat were thrown into the lake. One of the men swam to safety but the other man alternately sank and floated back to the surface.

Reynolds and his friend headed for the man in the water. As they approached the scene Reynolds tied a rope around his own waist and told his friend to pull him in if he got into trouble. He jumped into the water. The man grabbed hold of Reynolds, who was able to get a loop of the rope around the victim and both men were pulled back to Reynolds' boat. By this time several other persons had arrived and they were lifted back into the boat.

Reynolds did not get the names of those involved and he emphasized the rescue was a group effort.

## Three Groups Finish Course In Leadership

Three more groups have recently completed the American Management Association (AMA) course, "Developing Supervisory Leadership Skills." The course, consisting of eight two-hour sessions, was conducted by the Industrial Relations Division.

Dan Johnson of the Staff Development and Compensation Department, served as discussion leader. Discussions were based upon film lectures and case studies. The topics were as follows: The Nature of Leadership; Knowing Your Employees — Individual Differences; Understanding Personality and Behavior; Improving Three-Way Communication; Maintaining Effective Discipline; Handling Complaints and Grievances; Guiding and Developing Employees; and Job Satisfaction and Morale.

L. F. Lockett, M.D., Medical Director at K-25, was the lecturer for a ninth-session run in conjunction with the AMA course. He presented information about the Union Carbide Corporation program to reduce industrial alcoholism. The UCC film, "Need for Decision," was shown at the last session.

The purpose of the course was to assist the participants toward upgrading the art of managing and supervising. The objectives were to involve them in studies and discussions, to provoke thoughts and ideas, and to give them the opportunity to hear viewpoints and problems of others.

## Quotes From Notes From Our Retirees

"Greetings to all employees. I am getting along nicely, still living at 104 Bennett Lane. I am pastoring two churches, one at Loudon and one at Peakland. I am also fishing and working in my garden and flowers, have mowed my yard regularly."

Rev. Worth Henderson  
Oak Ridge

## Jones Promoted To Foreman Post

Vernon W. Jones has been promoted to roads and grounds foreman in the Fabrication and Maintenance Division. He was originally employed at K-25 in January, 1945, coming from the U. S. Forestry Service. He left Carbide for about 18 months in 1962 and later was employed at Y-12. He returned to K-25 in April of this year.



**W. Jones**

Jones is a native of Morgan County and attended public school in Caryville. He is married to the former Adelaide Wright of Roane County. They have two children: Vernon Eddie, of Harri-man; and Vivian Gail of Bolen, of Washington, D.C.

Mr. and Mrs. Jones live on Route 2, Oliver Springs.

## Courier to Carry Photos Of Students to Graduate

Again this year, the Carbide Courier will feature the children of K-25 employees who will be graduated from high school or college.

Pocket-size black and white photos are preferred. Be sure to write the following information on the back of the picture: student's name, school attended, parents' names and the department where the parent works. Pictures must be received by the Courier Office, Building K-1002, no later than June 1.

## WEATHER FACTOR

Three out of four people killed in highway accidents in 1969 were on dry roads in clear weather, according to annual figures compiled by a recent traffic study.

## SAFETY SCOREBOARD

OUR PLANT  
Has Operated  
3,759,000 Safe Hours  
Through May 14  
Since last disabling injury on August 19

## K-25 Retirees for May Total 125 Years Company Service

Five employees with a total of approximately 125 years of company service will retire this month. They are James H. Bradley, Z. D. Pedigo, C. F. Sales, P. S. Sampson, and William VanBever.

### James H. Bradley

James H. Bradley has been employed here since August, 1946. Before coming with Carbide, Bradley worked for Comstock-Bryant on K-25 construction and for M. W. Kellogg Co. at Salt Lake City, Utah, and in Starling-ton, La.

Bradley was born in Fordyce, Ark., and attended school in Warren, Ark., and Kansas City, Mo. Mrs. Bradley is the former Dixie Stringer. They have four daughters, Ann, Joan, Sue and Nancy, all housewives; and two sons, James, an electrical engineer in Vietnam, and George, in law school at The University of Tennessee.

The Bradleys live on Route 3, Yarnell Drive, Concord. Bradley's interest pertain to horticulture. He also plans to raise stock, chickens and quail. He says, "the main factor is being able to ignore the alarm clock. Facing this new life of retirement also has its heartfelt moments when you realize the many, many friends you have made over the course of years, you must say good-bye to."

### Z. D. Pedigo

Z. D. Pedigo, carpenter supervisor in the Buildings and Grounds Department, is taking early retirement after having been employed since November, 1944. He came with us from TVA.

Born in Algood, Tenn., Pedigo attended public school in Mayland, Tenn. He is married to the former Emma Lou Wyatt and they have three children: Emma Jean, a housewife; Betty Joyce, a registered medical technologist in Nashville; and Clyde Denton with Rusk Engineering in Cleveland, Tenn.

Pedigo's outside interests include fishing, hunting and watching baseball, basketball and football. He says, "I have certainly enjoyed my years with Carbide and will miss my many friends. I invite all of them to visit me in my home." The Pedigos live on Route 3, Crossville.

### C. F. Sales

C. F. Sales, an engineering draftsman in the Machine Design Department, Engineering Division, elected early retirement, effective May 1. He has been employed here since February, 1953, coming from the Ford Instrument Company in New York. Sales served in the U. S. Army from 1941 to 1945.

Sales was born in Salt Lake City, Utah. He attended public schools there and attended the University of Utah. Mrs. Sales is the former Alida Anderson and they have a son, Richard, a student at UT.

Sales' outside interests include painting and music. The Sales live at 4912 West Summit Circle, Knoxville.

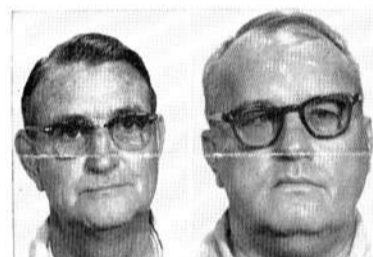


**Bradley**

**Pedigo**



**Sales**



**Sampson**

**VanBever**

### P. S. Sampson

P. S. Sampson, a machinist in the Machine Shop of the Fabrication and Maintenance Division, employed here since September, 1945, took early retirement on May 11. Before coming with us he worked in Detroit, Mich., for the Garland Manufacturing Company and was with the Harriman Hosiery Mill for 12 years.

Mrs. Sampson is the former Myrtle Newman and they have a son, Clarence Clayton Sampson, of Knoxville. The Sampsons live on Route 1, Harri-man.

### William VanBever

William VanBever, a development operator in the Gaseous Diffusion Development Division, has been a Carbider since August, 1943. He was first employed at Louisville, Ky., and transferred to K-25 in October, 1945.

VanBever is a native of, and attended public schools in Pineville, Ky. He is married to the former Garnett Hurst Hodge and they have a son, William Jr., working in Atlanta, Ga.

VanBever's outside interests include boating and fishing. The VanBever live at 603 Clark Street, Kingston.

## Krypton-Xenon Paper

J. R. Merriman, Gaseous Diffusion Development Division, recently presented a paper at the 25th Purdue Industrial Waste Conference at Purdue University. The title of the paper was "Removal of Radioactive Krypton and Xenon from Contaminated Nuclear Process Off-Gas Streams." M. J. Stephenson and J. H. Pashley were co-authors.

# These Employees Reach 25 Years Service This Month



A. F. ANDERSON   C. T. ANGEL   J. E. BREEDING   E. D. BROWN   J. W. BURGESS   D. N. CANTWELL   J. R. CANUP   J. G. CONNER   A. C. COTTRELL   R. C. DUNCAN



B. W. FRALIX   M. J. GIBSON   B. F. GILES   M. G. HESTER   R. H. HOLT   E. C. KIRSTOWSKY   B. J. LARD   F. M. MARCUM   B. T. NEWMAN JR.   L. N. PALMER



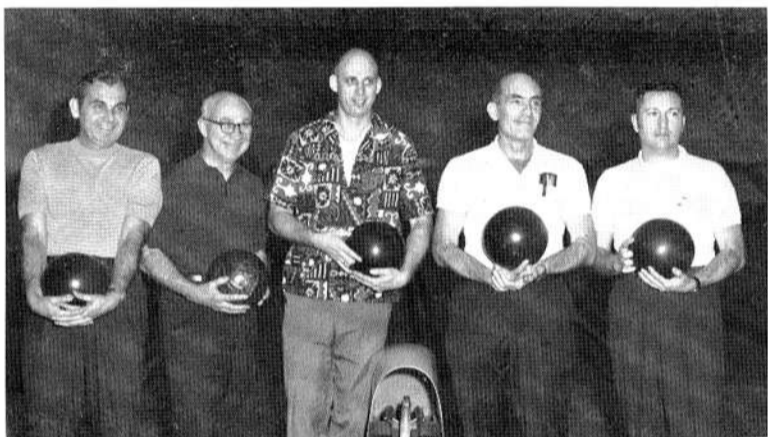
D. M. RAMSEY   G. A. SMALLEN   C. SPAKES   W. T. TURPIN   L. J. WAYLAND   V. C. WELCH   R. J. WERTZ

20 Years' Service

W. W. Miller ..... 5-08-50

W. P. Harris ..... 5-19-50

T. T. Jones, Jr. .... 5-23-50



**TUESDAY LEAGUE CHAMPIONS**—Left to right, Paul Claibough, Jim Bowers, Ray Fraser, Dwight Hatch and Sheldon Jackson, are the big champions of the Tuesday K-25 League. Other members not in the picture are Joe Adams, Oliver Russ, Don Burton, Stan Stief and Ed Von Halle.



Tony Moore

## James Moore's Son Is Active in CAP

Pictured above is Cadet Major Tony Moore, of the Civil Air Patrol, son of James and Frances Moore. Mr. Moore is in the Accounts Payable Department.

Tony has been active in CAP since 1965. He has had temporary CAP duties at Air Force bases in Illinois, Mississippi, Alabama, and Tennessee. In 1968 he received the Spiritual Life Conference Award at the Awards Banquet in Memphis. He has also served as a radio technician on a number of U. S. Air Force authorized search and rescue missions in the East Tennessee area.

Just recently, Tony served as youth pastor during Youth Week at First Baptist Church, Concord,

## Bowling Crown Won By Double X

The championship of the K-25 Men's Tuesday Bowling League was decided in a roll-off on May 5 at the Ark Lanes. The Double X team, second half winners, defeated the City Slickers, first half champs, by a three-game total handicap pin fall of 2847 to 2699.

Ray Fraser, with a 190 scratch game and a 514 scratch series and Sheldon Jacobs, with a 183 scratch game and a 500 series, led the Double X team.

Season High Scores	
High Scratch Game	
Furman Strang	256
High Handicap Game	
Sidney Brice	276
High Scratch Series	
Bart Simcox	635
High Handicap Series	
Walt Rule	705
Highest Average	
Mal Strickland	181
Most Improved Bowler	
Sidney Bruce	15 pins

where he is a member. The theme selected by the youth was "Here am I Lord, send Him," antithetically expressing the need for active youth involvement in the church activities and its witness.

Tony is a student at U-T, where he is majoring in Electrical Engineering.

## K-25ers Serve Vital Community Needs

At least four K-25 employees are members of county rescue squads in this area. Roy Whitaker and Correl J. Kelly are members of the Anderson County Emergency and Rescue Squad, Earl Hensley is a member of the Loudon County Squad and C. R. Vanover is a member of the Roane County Rescue Squad.

In addition to responding to various emergency situations, including floods, explosions, drownings, and locating lost persons, these men meet to discuss and practice the best procedures to follow if these emergency conditions arise. The squads have received numerous compliments from people they have helped in emergencies.

The county rescue squads are supported by our contributions to the United Fund.

## 15 Years' Service

J. F. McLaughlin	5-02-55
J. T. Carpenter	5-02-55
A. E. Harvey	5-09-55
R. M. Summers	5-31-55

## 10 Years' Service

R. F. Gregg	5-09-60
Q. T. East	5-14-60



**WOMEN'S LEAGUE CHAMPIONS**—Delores Friedman, Charlene Castle, Sue Davis, Oleta Carden and Jean Mooney, left to right, are the winners of K-25 Women's League. Other team members not pictured are Emmalee Duncan, Dorothy Gordon and Helen Hobson.

## Patton, Shoemaker Share Top Honors in K-25 Golf Tourney

A total of 142 golfers braved the damp weather on May 2 to participate in the first K-25 tournament of the season. The tournament was held on the Southwest Point Golf and Country Club course in Kingston.

C. S. Patton and Jim Shoemaker shared first division medalist honors, both shooting 80 scratch scores. D. F. Bennett had the lowest handicap score with a net 71.

Bob Nier had the best scratch score in the second division with an 83. Bob Napier's '73 was the best handicap score in this division.

Larry Williams' 92 was the lowest scratch score in the third division. Bob Easterday and J. L. Keller shared the handicap laurels in this division, both had net 76s.

Here are all the winners:

DIVISION I	
Front Nine	Back Nine
D. F. Bennett	34 A. H. Marshall
Jim Chapman	37 R. M. Schilling
J. V. Mason	37 John Kirchler
W. A. Davis	38 H. E. Shaw
A. H. Marshall	38 C. S. Patton
C. E. Mathis	38 D. F. Bennett
W. J. Moore	38 R. A. Carter
Jim Shoemaker	38 Jim Chapman
Lewis Atherton	39 Gus Kosinski
Ben Gaylor	39 Ed Powell
Bob Lynn	39 C. G. Henley
R. M. Schilling	39
No. 9 Hole-In-One	
John Boggs	7 ft. 6 in.
C. S. Patton	11 ft. 1 in.
No. 17 Hole-In-One	
Jim Shoemaker	22 ft. 5 in.
G. B. Boroughs	22 ft. 10 in.
DIVISION II	
Front Nine	Back Nine
R. E. Nier	34 R. E. Nier
R. W. Napier	35 L. A. Studinger
G. W. Lay	36 G. F. O'Neill
J. B. Wilhoit	36 Joe Tuggle
G. B. Brooks	37 D. H. Zimmerman
E. R. Brewster	38 V. E. Houston
C. G. Henley	38 R. O. Meyers

J. E. Mott	39 J. E. Mott	37
C. Nunley	39 E. R. Brewster	38
E. T. Strunk	39 R. W. Napier	38
V. E. Houston	39 Pat Pasquier	38
	Ted McKenzie	38
	Paul Haile	38
No. 9 Hole-In-One		
Paul Haile	14 ft. 8 in.	
Joe Tuggle	22 ft. 7 in.	
No. 17 Hole-In-One		
E. R. Brewster	6 ft. 6 in.	
Paul Haile	37 ft. 6 in.	
DIVISION III		
Front Nine	Back Nine	
L. R. Williams	36 J. L. Keller	32
L. C. Wrights	36 R. J. Easterday	34
M. S. McCarty	39 L. R. Williams	34
Bob Orrison	39 Ron Campbell	36
Carl Peterson	39 Art Rice	37
E. F. Pugh	39 Jim Stout	37
R. R. Abbott	40 C. K. Steele	38
G. W. Addington	40 R. R. Abbott	39
G. R. Harper	40 G. R. Harper	39
E. D. Legg	40 Carl Peterson	39
R. N. McGill	40 P. K. Sherrill	39
Ted McKenzie	40 Loy Sipe	39
J. V. Pace	40 B. K. White	39
B. K. White	40	
Joe Wolfe	40	
No. 9 Hole-In-One		
Larry Williams	4 ft. 10 in.	
L. C. Wrights	3 ft. 8 in.	
No. 17 Hole-In-One		
P. K. Sherrill	20 ft. 11 in.	

## Next Golf Tourney Set for Gatlinburg

The second K-25 golf tournament of the season is scheduled for June 6 at the Gatlinburg Country Club golf course.

Starting times may be obtained from the Recreation Office on June 1. Golfers riding carts must tee off before those walking the course. Forty carts will be available.

## Pay Offs Are Champs

In one of the closest and most exciting races in the history of the K-25 Women's Bowling League, the Pay Offs finally came out as league champions. But it wasn't easy!

Here's the sequence of events. The Wood Bees won the first half title by 2 points, with the Pay Offs finishing third. Then, the Pay Offs and the Pin Ups tied in the second-half standings, with the Pay Offs winning the rolloff for the second-half title by a score of 3-1.

Finally, on Tuesday, April 21, the Pay Offs defeated the Wood Bees 4-0 and claimed the league title.

Mary Foley had the highest single game scores for the season with a 242-268.

Chloris Starlin had the best series season scores with 563-686.

Mary Foley also had the highest average for the league, a 163.

Maxine Kilpatrick won the Most Improved Bowler honors, raising her average by 10 pins over the previous year.

## Why An Autopsy?

By T. A. LINCOLN, M.D.

When one loses a loved one and is overwhelmed with grief, giving permission for an autopsy is difficult. Before this crisis, every couple should review the reasons for an autopsy and each partner make an unemotional decision. When the awful but inevitable day comes, knowing the wishes of one's spouse can spare much unnecessary pain.

During an autopsy, a surgical incision is made in the chest and abdomen and the organs within carefully examined for evidence of disease and congenital malformations. Pieces of tissue from both normal-appearing and diseased organs are removed for later microscopic examination. For example, the coronary arteries are opened and meticulously dissected to determine the severity of atherosclerosis. The presence or absence of infarction, an area of muscle necrosis usually due to blockage of one of the arteries, is determined.



Dr. Lincoln

### Accurate Cause of Death

The autopsy attempts with all possible accuracy to establish the cause of death. The possibility of hereditary or infectious diseases not previously suspected is investigated. Occasionally such information can be of value to the surviving relatives. For example, if an unsuspected tuberculosis case were found, the members of the family would immediately be investigated. Aged patients, frequently not autopsied when they die, are now the greatest source of undetected tuberculosis.

A detailed explanation of the pre-death clinical findings is an essential part of the continuing education of all physicians. The careful clinician who has followed a patient and believes he knows what happened at the end, still wants to know if he was correct. He has been surprised by autopsy findings before and each time he has learned a valuable lesson. A good measure of the skill of a physician is his desire to know both his right and wrong diagnoses.

The medical profession is criticized because it doesn't get enough postgraduate education. The public should realize that autopsy studies are a vital part of a physician's continuing education. Most hospital staff meetings devote considerable time to a review of the autopsies performed in the previous month.

The number of autopsies performed in relation to the number of deaths is an index of the standard of medical practice of a hospital. Massachusetts General Hospital, certainly one of the leading teaching hospitals in this country, maintains an autopsy rate of almost 70 percent. The Joint Commission on Accreditation of Hospitals recommends a minimum autopsy rate of 20 to 25 percent.

### Must Have Consent

The nearest relative must give consent for an autopsy unless the deceased has given specific permission for an autopsy in his will. Under the Uniform Anatomical Gift Act, adopted by 40 states including Tennessee, a person may specify the manner of disposing of his body and the place of burial, and he may will his body or parts of it for scientific study. The latter is becoming a greater source of cadavers for training medical students in anatomy.

The nearest relative is the husband or wife, even if separated but not divorced. Next is a child over 21, then a parent and finally an adult brother or sister. If none of these can be found, the legal guardian of the deceased at the time of death may give permission.

One of the most common objections to an autopsy is the feeling that, "he has suffered enough." Of course, the suffering is over and the loved one's soul has left his body. All that is left is "the remains." The embalming procedure also involves incisions and punctures and the only difference is that the autopsy is more extensive. The autopsy does not

## 14-Team Softball League Starts Here

A 14-team Slo-Pitch softball League got underway Monday, May 18, with three teams participating from the Oak Ridge Gaseous Diffusion Plant, the remaining from Y-12.

Play takes place at Pinewood Park Monday, Tuesday and Thursday nights (with the exception of next week when Wednesday, May 27 replaces Thursday because of the holiday next week.)

The season will last through July 27; and a play-off among the top four teams will begin Thursday, July 30. The double elimination tournament will be held after the play-off.

The teams, their managers and assistant managers are: K-25 Gas-house Gang, Bruce Marshall, Wayne Langenburg; K-25 Devils, B. L. Jennings; K-25 Colts, Jerry Howard, Don Tidwell... all from K-25; the Y-12 teams are: Bat Boys, Glen Kitchings, Romeo Greene; All Stars, Ken Self, Col- on McCarty; N. C. Squad, Lee Wickham, Steve Porter, Jr.; Eagles, Hugh Richards, Frank Koons; 9103 Braves, Don Stinnett, Loyd Wyatt; Y-12 Rangers, John Welch, Al Miller; Beta 2 Miners, Frank Jenks, Larry Underdown; Raiders, Mike Gregg, Eddie Edwards; Snakes, Horace Moorman, Earl Nall; Knockers, Ronnie Sergeant, H. P. Prewett; and Buccaneers, D. D. Neikirk, L. W. Webb.

### FUNGUS-FREE FIELDS

An adequate food supply depends on protecting garden vegetables against their natural enemies. Among them are such things as downy mildew, anthracnose, leaf spots, scab, seedpiece decay, blight, septoria, and the like. Special chemical fungicides—all approved by the Food and Drug Administration—when properly used, control these destroyers without harm to animals or man.

interfere with the embalming procedure.

There is concern that the body will be disfigured. The incisions made during the autopsy, even when the head is examined, do not show when the casket is opened at the funeral. The incisions made during the autopsy are carefully sutured.

### Information Gained Varies

When the cause of death seems secure, there may be hesitation because it is felt there would be little gained. Although the amount learned obviously varies greatly from case to case, there is no case that lacks interest. Confirmation of a diagnosis and knowledge of the severity of the process can be a comfort, both to the family and the physician. Eliminating a possible source of lingering doubt which may arise later is an important reason to proceed.

Whenever a claim under Workmen's Compensation, or a suit to recover damages is anticipated, an autopsy is an absolute necessity. Whenever there is a claim that a double indemnity clause of an insurance contract should apply, an autopsy is usually required.

What more fitting tribute to a loved one than to close the book on his or her material life by resolving any doubts relating to the death and to have contributed, even in a miniscule way, to the possible better care of someone else in the future.



**BOAT LAUNCHING AT THE PARK**—Charles Hahs and Gerry, his wife, are seen at the Clark Center Recreation Park at the convenient boat-launching area. Charles is in the General Engineering Division of Oak Ridge National Laboratory. Concrete ramps at the Park make launching a boat a snap.



**OLE SWIMMIN' HOLE**—Deserted is this scene at the swimming area of Clark Center Recreation Park. Life-guards begin duty there, however, the first week of June and the area will lose its lonely appearance then.

## Sunday Workshops at Art Center

The Oak Ridge Community Art Center has launched a program of Sunday afternoon workshops at Ridgewood Park, which is adjacent to the Municipal Building.

The program will run from 1 to 4 p.m., weather permitting. Basic art materials, such as charcoal, sketch pads and clay, are being made available at a nominal charge. While no formal classes are being held, local artists have offered to provide occasional instruction in areas where there is sufficient interest.

In addition, members of the faculty of Oak Ridge High School have volunteered to conduct weekly discussions of various novels, authors, poems and poets.

If the workshop concept is successful, it is planned to expand

the program to offer such activities as folk music and drama.

The Art Center is seeking volunteers who, regardless of age or experience, would like to assist in the program. Additional information can be obtained by calling 482-1182 on weekdays between 10 a.m. and 2 p.m., and 482-4297 after 5 p.m.

### YOUNG DRIVERS

Drivers under 25 were involved in much more than their share of auto accidents in 1969, according to a report from a recent automotive study. One-fifth of all drivers are under 25, but, the under-25 group was involved in one-third of last year's fatal accidents.

★ **FOR YOUR SHARE** ★  
**IN AMERICA**



**U.S. SAVINGS BONDS**

## Donors Have Good Time

**EDITOR'S NOTE:** This is an invited guest article. Mr. Marcum, of the Nuclear Division Auditing Division, is the Red Cross volunteer in charge of the overall operation of the new Oak Ridge-Anderson County Blood Program.

By J. B. MARCUM

It's Friday, April 24, 1970—the first Bloodmobile visit to Oak Ridge under the new Oak Ridge-Anderson County Red Cross Blood Program.

Like some 300 other volunteers during the day, I went to the Armory at 4:45 p.m. where the "blood letting," as I facetiously told my friends, was taking place.

At the door, I was greeted by a pretty, smiling Gray Lady who directed me to the registration table.

### Good Humor Contagious

As I sat down to answer questions about my name, address, etc., I looked around and saw other people at other tables having temperatures, blood pressure and blood samples taken. And over all, I heard the sound of jovial conversation, laughter, and kidding among the donors themselves and the various Red Cross volunteers who were efficiently processing the donors toward the tables which were partly hidden behind a screen. (I knew what was behind that screen because I had observed a similar operation in Cookeville, Tenn., a month earlier!) Before I got to the screened area, I became a part of general good humor as though I had been giving blood every day of my life.

How shall I describe the atmosphere that permeated the place? What simile shall I use? A "Quilting Bee?" A "Spring Formal?" A "Family Picnic?" Everybody was actually having a "good time."

I reached the screened area, joked with the RN's as everybody else was doing, gave my pint (which I had dreaded and found was nothing), and was escorted to the canteen by a Gray Lady to have "coffee, cookies, soft drinks, etc."

### 119 Give For First Time

I sat down with a group already there, received coffee and immediately was drawn into conversation with the group. In no time I discovered that several had been there for some time. They didn't want to go home! They were enjoying themselves. And for some of them, like me, it was the first time; and also like me, many were relieved to find that there was nothing to it! (Records later showed 119 gave for the first time.)

We drank coffee, and I listened to previous experiences about giving—some a gallon, some two, three, four and five gallons. And always there was the relaxed friendly, jovial atmosphere. No one asked names or introduced himself. We all acted as if we were old friends. We had a common bond—we had contributed to a community effort and enjoyed it!

I didn't want to go home either, but others were coming in who needed the space and so, reluctantly, I got up and moved back out into the general area of the activity.

Here I found small groups of donors talking and commenting on their experience and how smoothly everything was going along.

Someone asked what had happened to some children they had seen come in and was informed that there was a nursery—a nursery, I found, that was being as efficiently run by a group of fourteen-year olds as a corporation with its chairman and board of directors.

### Service Helps Far Away

Recently it was gratifying to learn that the far-reaching aspects of the blood program are already in operation. The parents of six Oak Ridgers have already been helped in Iowa, Massachusetts, Florida, and Kentucky. Local Red Cross staff and volunteers in those states made arrangements for the free blood, but we in Oak Ridge and Anderson County made it possible. All of this is an excellent example of one of the strongest features about the blood program—if you or your family need blood, you are covered anywhere, anytime.

I didn't go home until the last of the equipment was loaded into the Bloodmobile.

It was one of the most exhilarating activities I was ever involved in. And I'm going to be there at every Bloodmobile visit in the future.

Why not you?



Marcum

## 'Atomic Light Bulbs' On Traffic Signs?

A self-illuminating traffic sign in Phoenix is one of the newest applications of atomic energy.

The Arizona Highway Department is testing a lane control sign which contains a phosphor activated by a chemically inert radioactive form of krypton gas. The self-contained unit requires no electrical lines, poles, transformer, on-off controls or replacement parts.

### Seen From 500 Feet

Under normal conditions the sign is easily visible at night from 500 feet. It is being tested for any environmental effects including temperatures on the brightness of the light sources.

Jack Snyder, highway designer for the State of Arizona, says there is no danger from the nuclear materials, even if the 750-pound sign were shattered by a storm or traffic accident. The krypton, a by-product of nuclear reactors, was separated at the Atomic Energy Commission's Idaho Chemical Processing Plant at Idaho Falls and refined here at AEC facilities in Oak Ridge.

### To Last 10 Years

The principle of the light emissions is similar to the operation of a television tube in which the electrons are emitted from a hot cathode and excite the phosphor-coated surface of the tube. In the "atomic light bulbs" the krypton provides the electrons to excite phosphor.

The development and fabrication of the self-luminous modules used in the sign were by American Atomics Corporation, of Tucson.

State officials have already determined two distinct advantages: no monthly power bills or replacing burned out light bulbs. The fuel in the sealed unit, which keeps the sign illuminated day and night, will last at least 10 years.



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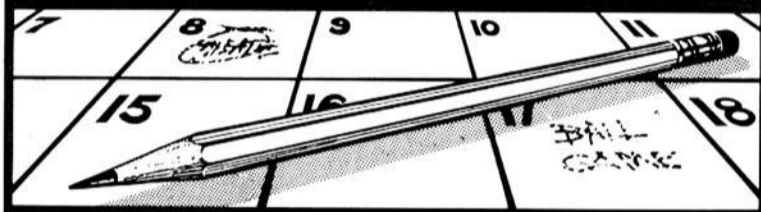
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## CALENDAR OF EVENTS



### TECHNICAL

May 22

Physics Division Seminar: "Photon Correlations and Fundamental Atomic Processes," G. Nussbaum, University of Tennessee. East Auditorium, Building 4500-N, ORNL, 3:15 p.m.

UT-AEC Agricultural Research Laboratory seminar. Dr. Michael Richard Guerin, "Biomedical Applications of Gas Chromatography." ARL Conference Room, 3 p.m.

May 25

Biology Division Seminar: "Energy Transfer in Proteins," F. W. J. Teale, Department of Biochemistry, University of Birmingham, England. Large Conference Room, Building 9207, 3 p.m.

May 28

Biology Division Seminar: "Regulation of Bacterial Enzyme Synthesis by Cyclic AMP," Robert Perlman, Institute of Arthritis and Metabolic Diseases, National Institutes of Health. First Floor

Tower Annex Conference Room, Building 9207, 12:15 p.m.

Biology Division Seminar: (Title to be announced.) Neville Kallenbach, Department of Biology, University of Pennsylvania. Large Conference Room, Building 9207, 3 p.m.

May 29

UT-AEC Agricultural Research Laboratory seminar. Dr. Alvin M. Weinberg, "Nuclear Energy and the Environment." ARL Conference Room, 3 p.m.

### COMMUNITY

May 21

Representative John Duncan will be the featured speaker at the combined Spring Annual Meeting of the East Tennessee and Oak Ridge Sections of the American Society of Mechanical Engineers, tonight, at the Deane Hill Country Club in Knoxville. This is a ladies-night affair, and will start with a social hour at 6:30; dinner at 7:15; and the program will begin at 8 p.m. The public is invited. Reservations are required and further information may be obtained by calling Elaine Collins at extension 3-6215.

May 21-24

Prints from Barkley, Ltd. Oak Ridge Community Art Center. Admission: \$.50 to nonmembers.

May 23

The Oak Ridge Community Playhouse Annual Membership Party. Oak Ridge Playhouse, 8:30 p.m. The theme for this party is "Around the State in 80 Plays." The public is invited, and reservations may be made by calling Mrs. Paul Ebert, 483-6193, or Mrs. Wilton Osborn, 483-0930.

## Rain, Fog, Smoke Require Headlights

Many Nuclear Division employees may be violating Tennessee's new Headlight Law and not be knowing it. State Safety Commissioner Greg O'Rear said that the law had been amended during the last session of Tennessee's General Assembly to require the use of headlights during fog, smoke, or rain, and all other times where there is not sufficient light to clearly see a person on the road at a distance of 200 feet ahead of their vehicle. The law also requires that headlights be used during the period from one-half hour after sunset until one-half hour before sunrise. He said poor visibility has caused many accidents during these periods which could have been prevented if headlights were in use. Headlights are not only good for your own visibility; they also aid other motorists in seeing your vehicle.



**GOOD TEAM**—Shown here are three of the team who helped to make the first Bloodmobile visit a success. From left are Gray Lady Mrs. Charles C. (Kathryn) Goldenschue; Gray Lady Mrs. (Mariam) Webb; and Mrs. Julian (Virginia) Marcum, chairman of volunteers for the Oak Ridge Red Cross chapter. All are wives of Nuclear Division employees. Goldenschue works at ORGDP; Webb at Y-12; and Marcum with the Auditing Division.